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Committee on the Peaceful Uses of Outer Space
Scientific and Technical Subcommittee
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Draft report

I. Introduction

1. The Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space held its fifty-first session at the United Nations Office at Vienna from 10 to 21 February 2014, under the chairmanship of Elöd Both (Hungary).

2. The Subcommittee held [...] meetings.

A. Attendance

3. Representatives of the following [..] member States of the Committee attended the session: Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Belarus, Belgium, Bolivia (Plurinational State of), Brazil, Burkina Faso, Canada, Chile, China, Colombia, Costa Rica, Cuba, Czech Republic, Ecuador, Egypt, France, Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Italy, Japan, Jordan, Kazakhstan, Kenya, Lebanon, Libya, Malaysia, Mexico, Morocco, Netherlands, Nicaragua, Nigeria, Pakistan, Peru, Philippines, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Slovakia, South Africa, Spain, Sudan Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, Venezuela (Bolivarian Republic of) and Viet Nam.

4. At its 796th meeting, on 10 February, the Subcommittee decided to invite, at their request, observers for the Dominican Republic, Guatemala, Israel, Luxembourg, Oman, Panama and the United Arab Emirates to attend the session and to address it, as appropriate, on the understanding that it would be without prejudice to further requests of that nature and that doing so would not involve any decision of the Committee concerning status.

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5. At the same meeting, the Subcommittee decided to invite, at its request, the observer for the Sovereign Military Order of Malta to attend the session and to address it, as appropriate, on the understanding that it would be without prejudice to further requests of that nature and that doing so would not involve any decision of the Committee concerning status.

6. Also at that same meeting, the Subcommittee decided to invite, at its request, the observer for the European Union to attend the session and to address it, as appropriate, on the understanding that it would be without prejudice to further requests of that nature and that doing so would not involve any decision of the Committee concerning status.

7. Observers for the Economic and Social Commission for Western Asia, the International Civil Aviation Organization (ICAO) and the International Telecommunication Union (ITU) attended the session.

8. The session was attended by observers for the following intergovernmental organizations with permanent observer status with the Committee: Asia-Pacific Space Cooperation Organization (APSCO), European Organisation for Astronomical Research in the Southern Hemisphere (ESO), European Space Agency (ESA), European Telecommunications Satellite Organization (EUTELSAT-IGO), Inter-Islamic Network on Space Sciences and Technology (ISNET), International Mobile Satellite Organization (IMSO) and Regional Centre for Remote Sensing of North African States (CRTEAN).

9. The session was also attended by observers for the following non-governmental organizations having permanent observer status with the Committee: Association of Space Explorers (ASE), EURISY, European Space Policy Institute (ESPI), International Academy of Astronautics (IAA), International Association for the Advancement of Space Safety (IAASS), International Astronautical Federation (IAF), International Society for Photogrammetry and Remote Sensing (ISPRS), International Space University (ISU), Prince Sultan bin Abdulaziz International Prize for Water (PSIPW), Scientific Committee on Solar-Terrestrial Physics (SCOSTEP), Secure World Foundation (SWF), Space Generation Advisory Council (SGAC) and World Space Week Association (WSWA).

10. The Subcommittee took note of the application of Luxembourg for membership in the Committee (A/AC.105/C.1/2014/CRP.4).

11. The Subcommittee also took note of the application by the African Association of Remote Sensing of the Environment (AARSE) for permanent observer status with the Committee (A/AC.105/C.1/2014/CRP.5).

12. A list of the representatives of States, United Nations entities and other international organizations attending the session is contained in A/AC.105/C.1/2014/INF/[...].

B. Adoption of the agenda

13. At its 796th meeting, on 10 February, the Subcommittee adopted the following agenda:

1. Adoption of the agenda.

2. Election of the Chair.

3. Statement by the Chair.

4. General exchange of views and introduction of reports submitted on national activities.

5. United Nations Programme on Space Applications.

6. Space technology for socioeconomic development in the context of the United Nations Conference on Sustainable Development and the post-2015 development agenda.

7. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment.

8. Space debris.

9. Space-system-based disaster management support.

10. Recent developments in global navigation satellite systems.

11. Space weather.

12. Near-Earth objects.

13. Use of nuclear power sources in outer space.

14. Long-term sustainability of outer space activities.

15. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union.

16. Draft provisional agenda for the fifty-second session of the Scientific and Technical Subcommittee.

17. Report to the Committee on the Peaceful Uses of Outer Space.

C. Election of the Chair

14. At its 796th meeting, the Subcommittee elected Mr. Elöd Both (Hungary) Chair for the period 2014-2015, pursuant to General Assembly resolution 68/75.

D. General statements

15. Statements were made by representatives of the following member States during the general exchange of views: Algeria, Argentina, Austria, Azerbaijan, Belgium, Brazil, Canada, China, Colombia, Costa Rica, Cuba, Czech Republic, France, Germany, India, Indonesia, Italy, Iran (Islamic Republic of), Japan, Kenya, Malaysia, Mexico, Nigeria, Pakistan, Philippines, Poland, Republic of Korea, Romania, Russian Federation, South Africa, Spain, Switzerland, Thailand, Ukraine,

United States, Venezuela (Bolivarian Republic of) and Viet Nam. A statement was also made by the representative of Nicaragua on behalf of the Group of Latin American and Caribbean States. General statements were also made by the observers for the United Arab Emirates, as well as APSCO, ESA, ESPI, EURISY, IAF, ISNET, SGAC, SWF, PSIPW and WSWA.

16. The Subcommittee welcomed the election of Elöd Both as Chair for a two-year term, starting in 2014. The Subcommittee expressed its appreciation to the outgoing Chair, Félix Clementino Menicocci (Argentina), for his leadership and contribution to furthering the achievements of the Subcommittee during his term of office.

17. The Subcommittee welcomed Belarus and Ghana as new members of the Committee on the Peaceful Uses of Outer Space. ISNET was welcomed as the most recent permanent observer of the Committee.

18. At the 796th meeting, the Chair made a statement outlining the work of the Subcommittee at its current session. The Chair recalled the important role of women in the scientific and related socioeconomic fields of societal development. He also emphasized the role of regional and interregional cooperation in space activities and called for closer coordination between the Committee and other intergovernmental bodies involved in the global development agenda.

19. Also at the 796th meeting, the Officer-in-Charge of the Office for Outer Space Affairs of the Secretariat made a statement reviewing the work programme of the Office and the need for additional resources to be able to successfully perform the envisaged responsibilities in the coming years.

20. The Subcommittee observed a minute of silence to mark the recent passing of Vladimir Kopal of the Czech Republic, who had been a longstanding contributor to the work of the Committee and to the development of international space law.

21. The Subcommittee noted that the 2014 International Space Exploration Forum had taken place in Washington in January, hosted by the United States in collaboration with the International Academy of Astronautics, and which followed up on the previous dialogue initiated by the European Commission and ESA, held in Italy in 2011. The Subcommittee noted that a large number of States had attended the Forum and emphasized the importance of further advancement of exploration and utilization of outer space for the benefit of humankind.

22. Some delegations reaffirmed the commitment of their countries to the peaceful use and exploration of outer space and emphasized the following principles: equal and non-discriminatory access to outer space and equal conditions for all States, irrespective of their level of scientific, technical and economic development; non-appropriation of outer space, including the Moon and other celestial bodies, by claim of sovereignty, use, occupation or any other means; non-militarization of outer space and its strict use for the improvement of living conditions and peace on the planet; and regional cooperation to promote the development of space activities.

23. Some delegations expressed the view that, given the impact of space activities on human life and the environment, there should be greater coordination and interaction between the Scientific and Technical Subcommittee and the Legal Subcommittee in order to promote the establishment of binding international norms addressing issues such as space debris and the use of nuclear power sources in outer space, which were critical issues in the use and exploration of outer space.

24. Some delegations expressed the view that developing countries should benefit from space technologies, in particular to support their social and economic development; that it was necessary to promote cooperation to facilitate data exchange and the transfer of technology among States; and that training of scientists in developing countries was crucial for the free flow of scientific information and data exchange, increased capacity-building and the sharing of knowledge.

25. The Subcommittee heard the following scientific and technical presentations:

(a) "The progress and achievement of Chang'e 3", by the representative of China;

(b) "Progress on calibration and validation for quantitative remote sensing in China", by the representative of China;

(c) "French technical regulations for space operations", by the representative of France;

(d) "Recent Indian space missions: update as of February 2014", by the representative of India;

(e) "Asia-Pacific Regional Space Agency Forum in 2013 and 2014: renovating for a new era", by the representative of Japan;

(f) "The Space Generation Congress 2013: perspectives from university students and young professionals in the space sector", by the observer for SGAC;

(g) "Cassini: a remarkable example of international cooperation in planetary exploration", by the representative of Italy;

(h) "Status of the United Nations-declared World Space Week", by the observer for WSWA;

(i) "Benefits of the International Space Station", by the representative of the United States;

(j) "The Brazilian sounding rocket VSB-30: meeting the Brazilian Space Programme and the Committee on the Peaceful Use of Outer Space objectives", by the representative of Brazil;

(k) "Thirty years of space geodesy at the Italian Space Agency", by the representative of Italy;

(l) "Humans on Mars: results of the Austrian multinational Mars landing simulation", by the representative of Austria;

(m) "Space activities of Luxembourg: an overview in relation to the application for membership in the United Nations Committee on the Peaceful Uses of Outer Space", by the representative of Luxembourg.

(n) "Mission of Pazhuhesh carrier of the second Iranian biospace capsule", by the representative of the Islamic Republic of Iran.

26. The Subcommittee expressed its gratitude to the organizers of the following events held on the margins of the current session of the Subcommittee:

(a) Expert meeting on "Improving space weather forecasting in the next decade", organized by the United States and the National Aeronautics and Space Administration (NASA);

(b) Seminar entitled "Your country wants to do more in space? A toolbox", hosted by ESPI;

(c) Seminar on "Space and sustainable development: space technology and research for global health", organized by Japan and the World Health Organization (WHO);

(d) Expert meeting on "International Space Station benefits for health", organized by the Office for Outer Space Affairs in collaboration with WHO.

E. National reports

27. The Subcommittee took note with appreciation of the reports submitted by Member States (see A/AC.105/1058 and Add.1, A/AC.105/C.1/2014/CRP.10 and A/AC.105/C.1/2014/CRP.11) for its consideration under agenda item 4, "General exchange of views and introduction of reports submitted on national activities". The Subcommittee recommended that the Secretariat continue to invite Member States to submit annual reports on their space activities.

F. Symposium

28. On 17 February, the Office for Outer Space Affairs organized a symposium on the theme "Commercial applications of global navigation satellite systems", which was moderated by Xiancheng Ding of China.

29. The presentations given at the symposium included the following: "The Global Positioning System and its applications", by Tom Stansell of Stansell Consulting; "The current status and future directions of commercial applications of GLONASS/GNSS in the Russian Federation", by Andrey Kupriyanov of the GLONASS/GNSS Forum Association; "Progress of Beidou/GNSS application", by Miao Tian of the China Satellite Navigation Office; "GALILEO commercial application prospective and critical issues", by Giuseppe Viriglio of Telespazio SpA; and "Project overview of the Quasi-Zenith Satellite System", by Yoshiyuki Murai of QZS System Services Inc.

G. Adoption of the report of the Scientific and Technical Subcommittee

30. After considering the items before it, the Subcommittee, at its [...]th meeting, on [...] February 2014, adopted its report to the Committee on the Peaceful Uses of Outer Space, containing its views and recommendations, as set out in the paragraphs below.

IX. Near-Earth objects

31. In accordance with General Assembly resolution 68/75, the Scientific and Technical Subcommittee considered agenda item 12, "Near-Earth objects".

32. The representatives of Canada, Egypt, Germany, Italy, Japan, the Republic of Korea and the United States, as well as the representative of Chile, on behalf of the Group of Latin American and Caribbean States, made statements under the agenda item. During the general exchange of views, statements relating to the item were also made by representatives of other member States and by the observers for ESA, SGAC and SWF.

33. The Subcommittee heard the following scientific and technical presentations:

(a) "Near-Earth objects 2013", by the representative of the United States;

(b) "Near-Earth objects activities in Russia: current state", by the representative of the Russian Federation;

(c) "Chelyabinsk event: what we know one year later", by the representative of the Czech Republic;

(d) "The Asteroid Grand Challenge", by the representative of the United States.

34. The Subcommittee noted with appreciation the work of the Action Team on Near-Earth Objects under the chairmanship of Sergio Camacho (Mexico) for the progress made on coordinating international efforts for the mitigation of the near-Earth object (NEO) hazard threat.

35. The Subcommittee noted that effective responses for the mitigation of hazard threats from NEOs were best carried out by means of international cooperation and the coordination of related research and knowledge of best practices.

36. The Subcommittee also noted the importance of information-sharing in discovering, monitoring and physically characterizing potentially hazardous NEOs to ensure that all countries, in particular developing countries with limited capacity in predicting and mitigating an NEO impact, were aware of potential threats. The Subcommittee also recalled the importance of capacity-building for effective emergency response and disaster management in the event of an NEO impact.

37. The Subcommittee noted that in its resolution 68/75, the General Assembly had welcomed with satisfaction the recommendations for an international response to the near-Earth object impact threat (A/AC.105/1038, annex III, paras. 11-14), endorsed by the Scientific and Technical Subcommittee at its fiftieth session and by the Committee at its fifty-sixth session.

38. The Subcommittee recalled that at its fiftieth session, its Working Group on Near-Earth Objects had recommended the following:

(a) An international asteroid warning network (IAWN), open to contributions by a wide spectrum of organizations, should be established by linking together the institutions that were already performing, to the extent possible, the necessary functions;

(b) IAWN should interface with the relevant international organizations and programmes to establish linkages with existing national and international disaster response agencies in order to study and plan response activities for potential NEO impact events;

(c) A space mission planning advisory group (SMPAG) should be established by States Members of the United Nations that have space agencies. The group should include representatives of spacefaring nations to lay out the framework, timeline and options for initiating and executing space mission response activities.

39. The Subcommittee recalled that it had agreed that the work of IAWN and SMPAG should be facilitated by the United Nations.

40. The Subcommittee noted that the Action Team on Near-Earth Objects, established by the Committee on the Peaceful Uses of Outer Space in 2001, should assist in the establishment of IAWN and SMPAG and that the Action Team should inform the Subcommittee of the progress in the establishment of both groups. Once established, IAWN and SMPAG should report on an annual basis on their work.

41. The Subcommittee recalled that all recommendations should be implemented with no cost to the regular budget of the United Nations.

42. The Subcommittee also noted that in implementing the above recommendations, the Action Team on Near-Earth Objects, in collaboration with NASA and ESA, had organized two meetings in 2014 to formally establish IAWN and SMPAG.

43. In accordance with the recommendations, the Subcommittee invited the Chair of the Action Team to inform the Subcommittee of the progress in the establishment of IAWN and SMPAG.

44. The Subcommittee was informed that on 13 and 14 January 2014, the first meeting of the steering committee of IAWN had been hosted by the Minor Planet Center, at the Harvard-Smithsonian Center for Astrophysics in Cambridge, United States. At that meeting, the core membership of an ad hoc steering committee was established, comprising individuals and institutions from the Russian Federation (Institute of Astronomy of the Russian Academy of Sciences), France (Centre national d'études spatiales), United States (NASA, the Jet Propulsion Laboratory and the Minor Planet Center), Germany (German Aerospace Center (DLR)), ESA and its Space Situational Awareness programme; the Netherlands Institute for Space Research (SRON), Italy (Institute for Space Astrophysics and Planetology) and the International Astronomical Union (IAU) and the Chair of the Action Team on Near-Earth Objects. SWF and the Solar System Exploration Research Virtual Institute (SSERVI) provided support to the meeting. After the meeting, the Korea Astronomy and Space Science Institute (KASI) indicated its intention to join IAWN. The Subcommittee was informed of the following results and findings of that meeting:

(a) The meeting provided an opportunity to hear directly from experts engaged in NEO discovery, tracking and characterization; to examine policies regarding threat threshold criteria; and to provide recommendations for communicating that information to the world's political leaders and the general population;

(b) The IAWN ad hoc steering committee recognized that there was a need to encourage additional participation in IAWN and, through the recruitment of other organizations, in the efforts of the network. Potential partners mentioned at the meeting included: the Russian Federal Space Agency (Roscosmos), the Japan Aerospace Exploration Agency (JAXA), ESO, the Canadian Space Agency, the Indian Space Research Organisation (ISRO), the China National Space Administration (CNSA), the UK Space Agency of the United Kingdom, the French Centre national d'études spatiales and the International Scientific Optical Network (ISON). Additional partners were encouraged to join;

(c) A statement of intent would be drafted to provide guidance on the operational principles of IAWN, to establish guidance by which IAWN would operate and to acknowledge the participation of each partner in IAWN. The statement of intent would address the goals of the steering committee for the global NEO database and for communicating information to diverse audiences, including politicians, policymakers, the emergency management community and the population at large. The statement of intent will also define the basic roles and responsibilities of the steering committee of IAWN;

(d) IAWN should enhance NEO discovery and follow-up observations (e.g. astrometry, photometry and spectroscopy), especially in the southern hemisphere, through further international cooperation and coordination. Specifically, IAWN should encourage the coordinated use of ground-based telescopes for NEO follow-up observations, incorporate existing assets to bridge gaps in global sky coverage, and identify and facilitate the coordination of existing capabilities of members that could be utilized more effectively;

(e) Through further international collaboration, IAWN should seek to establish an international rapid all-sky search capability that was focused on discovering smaller, imminent impactors (e.g., the Chelyabinsk event or larger ones) and the development and operation of a space-based NEO infrared survey telescope to increase the rate of discovery of NEOs by at least an order of magnitude;

(f) The IAWN ad hoc steering committee agreed to organize a two-day workshop in 2014 on communication strategies regarding NEO impact hazards. The workshop would focus on the critical assessment of messages, strategies and plans developed by the NEO community in an effort to improve international communication relating to potentially hazardous asteroids and impact risks.

45. The Subcommittee was also informed that on 6 and 7 February 2014, in collaboration with the Action Team on Near-Earth Objects, ESA had hosted the first meeting of SMPAG at its European Space Operations Centre in Darmstadt, Germany. The representatives of the following entities participated: Agencia Espacial Mexicana (Mexico), Agenzia Spaziale Italiana (Italy), Centre national d'études spatiales (France), Canadian Space Agency (Canada), Chile, DLR (Germany), ESA, Ghana, JAXA (Japan), NASA (United States), Roscosmos (Russian Federation), State Space Agency of Ukraine (Ukraine) and UK Space Agency (United Kingdom). In addition, representatives of the Action Team on Near-Earth Objects and the Office for Outer Space Affairs were present. The participants agreed that a representative of ESA would chair the first meeting of SMPAG. After the meeting, the Romanian Space Agency (ROSA) requested membership in and announced its delegation to SMPAG. Other space agencies were

encouraged to join. The Subcommittee was informed of the following information resulting from that meeting:

(a) The participants in the meeting noted that the primary purpose of SMPAG was to prepare an international response to a NEO threat through the exchange of information and the development of options for collaborative research and mission opportunities, and to conduct planning activities for NEO threat mitigation;

(b) In a round-table discussion, some members of SMPAG summarized the efforts of their respective space agencies in the field of NEOs. ESA presented a sample impact case to SMPAG in order to frame discussions relevant to the future work of SMPAG. That case study traced the possible time frame and the steps that could be taken to assist in the disaster response. Participants in the meeting were then briefed on the outcomes of the first meeting of the IAWN ad hoc steering committee referred to above;

(c) The main work of SMPAG at the meeting was the consideration and finalization of its terms of reference. Consensus had been achieved as to the structure and wording of the terms of reference. During the meeting, ESA was elected by consensus as interim chair of SMPAG. The next meeting would be held in Vienna on 12 and 13 June 2014. That meeting would focus on the exchange of information on relevant activities in the field of NEO hazard mitigation and on the future workplan.

46. The Subcommittee noted that the Action Team on Near-Earth Objects should continue to support the work of IAWN and SMPAG in the short term in order to facilitate their interaction with the Committee and Governments, intergovernmental organizations and non-governmental organizations that were not participating in those NEO bodies. The Action Team would also address related issues that were not foreseen at present or were not dealt with by the two bodies. The continued need for the Action Team would be reviewed at each session of the Subcommittee.

XI. Long-term sustainability of outer space activities

47. In accordance with General Assembly resolution 68/75, the Scientific and Technical Subcommittee considered agenda item 14, "Long-term sustainability of outer space activities", under the workplan contained in the report of the Committee on the Peaceful Uses of Outer Space on its fifty-second session.[1]

48. The representatives of Austria, Canada, China, Germany, Iran (Islamic Republic of), Japan, Pakistan, the Russian Federation, the United States and Venezuela (Bolivarian Republic of) made statements under agenda item 14. A statement was made under the item by the representative of Chile on behalf of the Group of Latin American and Caribbean States. The observer for SWF also made a statement. During the general exchange of views, statements relating to the item were also made by representatives of other member States.

[1] *Official Records of the General Assembly, Sixty-fourth Session, Supplement No. 20* (A/64/20), para. 161.

49. The Subcommittee heard the following scientific and technical presentations:

(a) "Small satellites: advancing university scientific research and workforce development", by the representative of the United States;

(b) "International perspectives on rendezvous and proximity operations in space and space sustainability", by the observer for SWF;

(c) "Public risk tolerability criteria for space launch and re-entry", by the observer for IAASS;

(d) "Commercial human spaceflight safety", by the observer for IAASS.

50. The Subcommittee had before it the following:

(a) Note by the Secretariat containing the compilation of draft guidelines proposed by expert groups A to D for consideration by the Working Group on the Long-term Sustainability of Outer Space Activities as at the fifty-sixth session of the Committee on the Peaceful Uses of Outer Space (A/AC.105/1041/Rev.1);

(b) Working paper submitted by the Russian Federation on the long-term sustainability of outer space activities (A/AC.105/C.1/L.337);

(c) Working paper submitted by the Russian Federation on prerequisites for promoting the consideration of ways and means of maintaining outer space for peaceful purposes in the context of the issue of the long-term sustainability of outer space activities (A/AC.105/C.1/L.338);

(d) Working paper by the Chair of the Working Group containing a proposal for a draft report and a preliminary set of draft guidelines of the Working Group on the Long-term Sustainability of Outer Space Activities (A/AC.105/C.1/L.339);

(e) Conference room papers containing the working reports of expert groups A, C and D (A/AC.105/C.1/2014/CRP.13, A/AC.105/C.1/2014/CRP.15 and A/AC.105/C.1/2014/CRP.16);

(f) Conference room paper containing the views of the United States on the proposal for a draft report and a preliminary set of draft guidelines of the Working Group on Long-term Sustainability of Space Activities contained in document A/AC.105/C.1/L.339 (A/AC.105/C.1/2014/CRP.14);

(g) Conference room paper containing a working paper submitted by the Russian Federation on the long-term sustainability of outer space activities (basic elements of the concept of establishing a unified centre for information on near-Earth space monitoring under the auspices of the United Nations and the most topical aspects of the subject matter) (A/AC.105/C.1/2014/CRP.17);

(h) Conference room paper containing a list of points of contact for the Working Group on the Long-term Sustainability of Outer Space Activities (A/AC.105/C.1/2014/CRP.18).

51. The Subcommittee welcomed the fact that General Assembly resolution 68/50 on transparency and confidence-building measures in outer space activities and the report of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities (A/68/189) were made available at the session.

52. In accordance with General Assembly resolution 68/75, the Working Group on the Long-term Sustainability of Outer Space Activities was reconvened under the chairmanship of Peter Martinez (South Africa).

53. The Subcommittee welcomed the progress made under the agenda item within the Working Group and in the four expert groups, in accordance with the terms of reference and methods of work of the Working Group, and noted with appreciation that three expert groups had presented their working reports for consideration by the Working Group.

54. The Subcommittee noted that the proposal for a draft report and a preliminary set of draft guidelines, contained in the working paper prepared by the Chair of the Working Group, constituted an important step forward in the work of the Working Group and provided a solid basis for further discussions towards developing a consensus-based set of guidelines.

55. The view was expressed that the guidelines should be given considered from a political viewpoint in the Working Group.

56. Some delegations expressed the view that any measures or sets of guidelines that might be recommended in the future should be consistent with international law, including the five United Nations treaties on outer space.

57. The view was expressed that the regulation of space activities remained the responsibility of States and that that responsibility was not transferrable.

58. Some delegations expressed the view that it was important to consider the common elements in the work under way in the Working Group, the recommendations contained in the report of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities (A/68/189) and the discussions on an international code of conduct, since they shared the goals of promoting safety, security and sustainability in outer space activities and were inherently interlinked.

59. The view was expressed that the complex issue of sustainability could be tackled only in an interdisciplinary manner.

60. Some delegations expressed the view that the recommendations and guidelines of the Working Group should not limit access to outer space by developing countries with emerging space capabilities wishing to exercise their legitimate right to use space technology for societal benefit and that States had to ensure that outer space was not used to favour commercial interests that undermined the social interests of humanity.

61. Some delegations expressed the view that the set of draft guidelines should be streamlined and consolidated into a more concise list.

62. The view was expressed that while the structure of the draft set of guidelines could be greatly improved and that some new guidelines could be introduced.

63. The view was expressed that the guidelines should be clear and implementable, that their impact should be measurable, and that a clear path for their implementation should be considered already, at the present stage.

64. The view was expressed that a procedure for reviewing and updating the guidelines periodically should be set up.

65. The view was expressed that it was necessary to reach agreement on definitions for the concepts used in the guidelines in order to ensure that the implementation of the guidelines had practical effect.

66. The view was expressed that the term "non-governmental organizations" should be used in the guidelines to refer to all space actors from academia, industry, the private sector and civil society.

67. The view was expressed that capacity-building in countries with emerging space capabilities should be addressed more comprehensively, in particular in relation to space debris mitigation and space weather.

68. Some delegations expressed the view that space debris had been created through past space operations by countries with advanced space capabilities, and that those States should assist new entrants in space activities to mitigate space debris by providing scientific, technological and financial support, in order to assist them in taking into account the long-term sustainability of outer space activities.

69. The view was expressed that legal definitions for space debris and the status of space debris objects should be developed.

70. The view was expressed that an international space debris fund should be established to support activities in space debris mitigation and removal, and that Member States, in particular those with advanced space capabilities, should be encouraged to donate a percentage of their budget for space activities to the fund in order to support sustainable development on Earth and in outer space.

71. The view was expressed that an international monitoring centre for near-Earth space should be established as a universal tool for information exchange and for the collection and dissemination of information on objects and events in near-Earth space.

72. The view was expressed that the use of nuclear power sources in outer space and its direct implications on sustainability and safety had not been addressed in the work of the Working Group on the Long-term Sustainability of Outer Space Activities.

73. The Subcommittee noted that in accordance with the agreement reached by the Committee at its fifty-sixth session (A/68/20, para. 167), the Chair of the Working Group would inform the Legal Subcommittee at its fifty-third session of the progress achieved by the Working Group in the period leading up to and during the fifty-first session of the Scientific and Technical Subcommittee.

74. The view was expressed that the Committee should aim to submit a set of guidelines for consideration by the General Assembly in 2014, in accordance with the workplan of the Working Group, and that any topics requiring more profound consideration could constitute the basis of a new workplan on the long-term sustainability of outer space activities.

75. Some delegations expressed the view that sufficient time should be secured for discussions of the Working Group in the plenary of the Subcommittee, with simultaneous interpretation services, and that States should allow themselves adequate time to consider and reach consensus on all issues.

76. The view was expressed that the Working Group should meet during the fifty-seventh session of the Committee and that expert groups could also be reconvened on the margins of that session as necessary.

77. The view was expressed that the method of work used in the Working Group should be considered for use under other agenda items, since successful results had been achieved in the Working Group in a very limited time.

78. At its [...]th meeting, on [...] February, the Subcommittee endorsed the report of the Working Group on the Long-term Sustainability of Outer Space Activities, which is contained in annex [...] to the present report.